This listing of claims will replace all prior versions, and listings, of claims in the application:

## **LISTING OF CLAIMS:**

- 1. -- 12. (Canceled)
- **13.** (New) A compound of the formula (I):

$$\begin{array}{c}
O \\
HN \\
N
\end{array}$$

$$\begin{array}{c}
CN \\
R^2
\end{array}$$

$$\begin{array}{c}
(I), \\
R^3
\end{array}$$

in which

A is phenyl; heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; or a group of the

where phenyl and heteroaryl are optionally substituted by up to 2 radicals independently of one another selected from the group of heteroaryl which is being an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; halogen; C<sub>1</sub>-C<sub>6</sub>-alkyl; C<sub>1</sub>-C<sub>6</sub>-alkoxy; trifluoromethyl; trifluoromethoxy; benzyloxy and benzyl;

where  $C_1$ - $C_6$ -alkyl is optionally substituted by a group of the formula -NR $^3$ R $^4$  in which R $^3$  is  $C_1$ - $C_6$ -alkyl and R $^4$  is hydrogen or  $C_1$ - $C_6$ -alkoxy( $C_1$ - $C_6$ )alkyl, and

heteroaryl is optionally substituted by C<sub>1</sub>-C<sub>6</sub>-alkoxy,

R<sup>1</sup> is C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, benzyl or a group

of the formula

where  $C_3$ - $C_8$ -cycloalkyl is optionally substituted by hydroxy,  $C_1$ - $C_6$ -alkyl or trifluoromethyl,

C<sub>1</sub>-C<sub>6</sub>-alkyl is optionally substituted by heteroaryl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl or hydroxy,

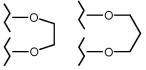
and benzyl is optionally substituted by C<sub>1</sub>-C<sub>6</sub>-alkoxy or halogen,

R<sup>2</sup> is hydrogen,

or

 $R^1$  and  $R^2$ 

together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl group which is a monocyclic, saturated or partially unsaturated heterocyclic radical having 5 to 6 ring atoms and 1 to 2 heteroatoms selected from N, O, and S which is optionally substituted by up to 2 substituents independently of one another selected from  $C_1$ - $C_6$ -alkyl; hydroxy; cyano; oxo; heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; benzyl; formyl;  $C_1$ - $C_6$ -alkylcarbonyl; and the following groups



, , which are linked via the two oxygen atoms to one of the carbon atoms in the heterocycle,

where  $C_1$ - $C_6$ -alkyl is optionally substituted by hydroxy or heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N;

or a salt thereof;

provided that the compound is not

or a salt thereof.

## **14.** (New) A compound according to Claim 13, where

A is phenyl, heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N;

or a group of the formula

where phenyl and heteroaryl are optionally substituted by up to 2 radicals independently of one another selected from the group of heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; halogen;  $C_1$ - $C_4$ -alkyl;  $C_1$ - $C_4$ -alkoxy; trifluoromethyl; trifluoromethoxy; benzyloxy; and benzyl;

where  $C_1$ - $C_4$ -alkyl is optionally substituted by a group of the formula -NR<sup>3</sup>R<sup>4</sup> in which R<sup>3</sup> is  $C_1$ - $C_4$ -alkyl and R<sup>4</sup> is hydrogen or  $C_1$ - $C_4$ -alkoxy( $C_1$ - $C_4$ )alkyl, and

## heteroaryl is optionally substituted by $C_1$ - $C_4$ -alkoxy,

 $R^1$  is  $C_3$ - $C_6$ -cycloalkyl,  $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkoxy( $C_1$ - $C_4$ )alkyl, benzyl or a group

of the formula 
$$H_3C$$

where  $C_3$ - $C_6$ -cycloalkyl is optionally substituted by hydroxy,  $C_1$ - $C_4$ -alkyl or trifluoromethyl,

 $C_1$ - $C_4$ -alkyl is optionally substituted by heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N;  $C_3$ - $C_6$ -cycloalkyl; or hydroxy,

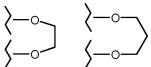
and benzyl is optionally substituted by C<sub>1</sub>-C<sub>4</sub>-alkoxy or halogen,

R<sup>2</sup> is hydrogen,

or

 $R^1$  and  $R^2$ 

together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl which is a monocyclic, saturated or partially unsaturated heterocyclic radical having 5 to 6 ring atoms and 1 to 2 heteroatoms selected from N, O and S, which is optionally substituted by up to 2 substituents independently of one another selected from the group of  $C_1$ - $C_4$ -alkyl, hydroxy, cyano, oxo, heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; benzyl; formyl;  $C_1$ - $C_4$ -alkylcarbonyl; and the following groups



, which are linked via the two oxygen atoms

to one of the carbon atoms in the heterocycle,

where C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by hydroxy or heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N,

or a salt thereof.

## 15. (New) A compound according to claim 13, where

is phenyl, thienyl or a group of the formula Α

> where phenyl and thienyl are optionally substituted by up to 2 radicals independently of one another selected from the group of pyridyl, fluorine, chlorine, bromine, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, trifluoromethyl, trifluoromethoxy, benzyloxy and benzyl,

> > where C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by a group of the formula -NR<sup>3</sup>R<sup>4</sup> in which R<sup>3</sup> is C<sub>1</sub>-C<sub>4</sub>-alkyl and R<sup>4</sup> is hydrogen or  $C_1$ - $C_4$ -alkoxy( $C_1$ - $C_4$ )alkyl, and

pyridyl is optionally substituted by  $C_1$ - $C_4$ -alkoxy,

 $R^1$ is C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy(C<sub>1</sub>-C<sub>4</sub>)alkyl, benzyl or a group

of the formula 
$$H_3C$$
  $CH_3$ 

where C<sub>3</sub>-C<sub>6</sub>-cycloalkyl is optionally substituted by hydroxy, C<sub>1</sub>-C<sub>4</sub>alkyl or trifluoromethyl,

C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by pyridyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl or hydroxy,

and benzyl is optionally substituted by  $C_1$ - $C_4$ -alkoxy, fluorine, chlorine or bromine,

R<sup>2</sup> is hydrogen,

or

 $R^1$  and  $R^2$  together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl selected from the group of pyrrolidinyl, piperidinyl, piperazinyl and morpholinyl, which is optionally substituted by up to 2 substituents independently of one another selected from the group of  $C_1$ - $C_4$ -alkyl, hydroxy, cyano, oxo, heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; benzyl; formyl;  $C_1$ - $C_4$ -

alkylcarbonyl; and the following groups

where C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by hydroxy or pyridyl,

or a salt thereof.

**16.** (New) A compound according to claim 13, where:



A is phenyl, thienyl or a group of the formula

where phenyl is optionally substituted by up to 2 radicals independently of one another selected from the group of pyridyl,

fluorine, chlorine, methyl, methoxy, ethoxy, trifluoromethyl, trifluoromethoxy, benzyloxy and benzyl,

where methyl is optionally substituted by a group of the formula  $-NR^3R^4$  in which  $R^3$  is methyl and  $R^4$  is hydrogen or 2-methoxyethyl, and

pyridyl is optionally substituted by methoxy,

R<sup>1</sup> is C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, methyl, ethyl, propyl, 2-methoxyethyl, benzyl or a group

of the formula

where  $C_3$ - $C_6$ -cycloalkyl is optionally substituted by hydroxy, methyl or trifluoromethyl,

methyl, ethyl, propyl is optionally substituted by pyridyl, cyclopropyl or hydroxy,

and benzyl is optionally substituted by methoxy, ethoxy, fluorine or chlorine,

R<sup>2</sup> is hydrogen,

or

R<sup>1</sup> and R<sup>2</sup> together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl selected from the group of pyrrolidinyl, piperidinyl, piperazinyl and morpholinyl, which is optionally substituted by up to 2 substituents independently of one another selected from the group of methyl, ethyl, propyl, tert-butyl, hydroxy, cyano, oxo, pyridyl, benzyl, formyl, methylcarbonyl, ethylcarbonyl, propylcarbonyl and one of the following groups

$$\begin{array}{c} \\ \\ \\ \\ \\ \\ \end{array}$$
, which are linked via the two oxygen atoms to one of the carbon atoms in the heterocycle,

where methyl, ethyl and propyl are optionally substituted by hydroxy or pyridyl,

or a salt thereof.

- 17. (New) Process for preparing a compound of claim 13, comprising:
  - [A] converting a compound of the formula

$$H_3C$$
 $CN$ 
 $S$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

by reacting with a compound of the formula

$$HNR^1R^2$$
 (III),

in which

R<sup>1</sup> and R<sup>2</sup> have the abovementioned meanings,

at elevated temperature in an inert solvent or else in the absence of a solvent, into a compound of the formula

in which

R<sup>1</sup> and R<sup>2</sup> have the abovementioned meanings,

and then reacting the compound of formula (IV) in an inert solvent in the presence of a base with a compound of the formula

$$NH$$
 $NH_2$ 
 $X = CI, Br or I$ 
 $V$ 

in which

A has the abovementioned meanings;

or,

[B] converting a compound of the formula (II) by reacting with a compound of the formula (V) in an inert solvent in the presence of a base into a compound of the formula

in which

A has the abovementioned meanings,

and then reacting the compound of formula (VI) at elevated temperature in an inert solvent or else in the absence of a solvent with a compound of the formula (III),

and, optionally, reacting the resulting compounds of the formula (I), in each case, with the appropriate (i) solvents and/or (ii) bases or acids to give a salt thereof.

- **18.** (New) A method for producing a medicament comprising providing a compound according to claim 13 or a salt thereof in a form useful for therapeutic treatment.
- **19.** (New) A method for producing a medicament useful for treating an impairment of learning and/or memory in a human or animal comprising providing a compound according to claim 13 or a salt thereof in a form useful for said therapeutic treatment.
- **20.** (New) A pharmaceutical composition comprising a compound of formula (I) of claim 13 or a salt thereof, as the active moiety.
- **21.** (New) A medicament comprising at least one of the compounds according to claim 13 and at least one pharmaceutically acceptable, essentially non-toxic carrier or excipient.
- **22.** (New) A method for the treatment of a condition concerning impairment of learning and memory in a patient in need of such treatment, comprising administering a therapeutically amount of a compound of formula (I) to said patient,

$$\begin{array}{c|c}
O & CN \\
HN & R^2 & (I), \\
R^1 & R^2 & (I),
\end{array}$$

in which

A is phenyl; heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; or a group of the

where phenyl and heteroaryl are optionally substituted by up to 2 radicals independently of one another selected from the group of heteroaryl which is being an aromatic, monocyclic radical having 5 to 6

ring atoms and 1 to 3 heteroatoms selected from S, O and N; halogen; C<sub>1</sub>-C<sub>6</sub>-alkyl; C<sub>1</sub>-C<sub>6</sub>-alkoxy; trifluoromethyl; trifluoromethoxy; benzyloxy and benzyl;

where  $C_1$ - $C_6$ -alkyl is optionally substituted by a group of the formula -NR<sup>3</sup>R<sup>4</sup> in which R<sup>3</sup> is  $C_1$ - $C_6$ -alkyl and R<sup>4</sup> is hydrogen or  $C_1$ - $C_6$ -alkoxy( $C_1$ - $C_6$ )alkyl, and

heteroaryl is optionally substituted by C<sub>1</sub>-C<sub>6</sub>-alkoxy,

R<sup>1</sup> is C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, benzyl or a group

of the formula

where  $C_3$ - $C_8$ -cycloalkyl is optionally substituted by hydroxy,  $C_1$ - $C_6$ -alkyl or trifluoromethyl,

 $C_1$ - $C_6$ -alkyl is optionally substituted by heteroaryl,  $C_3$ - $C_8$ -cycloalkyl or hydroxy,

and benzyl is optionally substituted by C<sub>1</sub>-C<sub>6</sub>-alkoxy or halogen,

R<sup>2</sup> is hydrogen,

or

 $R^1$  and  $R^2$  together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl group which is a monocyclic, saturated or partially unsaturated heterocyclic radical having 5 to 6 ring atoms and 1 to 2 heteroatoms selected from N, O, and S which is optionally substituted by up to 2 substituents independently of one another selected from  $C_1$ - $C_6$ -alkyl; hydroxy; cyano; oxo; heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3

heteroatoms selected from S, O and N; benzyl; formyl; C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl; and the following groups

where  $C_1$ - $C_6$ -alkyl is optionally substituted by hydroxy or heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and up to 3 heteroatoms selected from S, O and N;

or a salt thereof.

- **23.** (New) A method according to claim 22, where in the compound of formula (I):
  - A is phenyl, heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N;



or a group of the formula

where phenyl and heteroaryl are optionally substituted by up to 2 radicals independently of one another selected from the group of heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; halogen; C<sub>1</sub>-C<sub>4</sub>-alkyl; C<sub>1</sub>-C<sub>4</sub>-alkoxy; trifluoromethyl; trifluoromethoxy; benzyloxy; and benzyl;

where  $C_1$ - $C_4$ -alkyl is optionally substituted by a group of the formula -NR $^3$ R $^4$  in which R $^3$  is  $C_1$ - $C_4$ -alkyl and R $^4$  is hydrogen or  $C_1$ - $C_4$ -alkoxy( $C_1$ - $C_4$ )alkyl, and

heteroaryl is optionally substituted by  $C_1$ - $C_4$ -alkoxy,

 $R^1$  is  $C_3$ - $C_6$ -cycloalkyl,  $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkoxy( $C_1$ - $C_4$ )alkyl, benzyl or a group

of the formula 
$$H_3C$$

where C<sub>3</sub>-C<sub>6</sub>-cycloalkyl is optionally substituted by hydroxy, C<sub>1</sub>-C<sub>4</sub>-alkyl or trifluoromethyl,

 $C_1$ - $C_4$ -alkyl is optionally substituted by heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N;  $C_3$ - $C_6$ -cycloalkyl; or hydroxy,

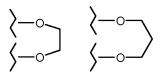
and benzyl is optionally substituted by C<sub>1</sub>-C<sub>4</sub>-alkoxy or halogen,

R<sup>2</sup> is hydrogen,

or

 $R^1$  and  $R^2$ 

together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl which is a monocyclic, saturated or partially unsaturated heterocyclic radical having 5 to 6 ring atoms and 1 to 2 heteroatoms selected from N, O and S, which is optionally substituted by up to 2 substituents independently of one another selected from the group of  $C_1$ - $C_4$ -alkyl, hydroxy, cyano, oxo, heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; benzyl; formyl;  $C_1$ - $C_4$ -alkylcarbonyl; and the following groups



, which are linked via the two oxygen atoms

to one of the carbon atoms in the heterocycle,

where C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by hydroxy or heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N,

or a salt thereof.

24. (New) A method according to claim 22, where in the compound of formula (I):

is phenyl, thienyl or a group of the formula Α

> where phenyl and thienyl are optionally substituted by up to 2 radicals independently of one another selected from the group of pyridyl, fluorine, chlorine, bromine, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, trifluoromethyl, trifluoromethoxy, benzyloxy and benzyl,

> > where C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by a group of the formula -NR<sup>3</sup>R<sup>4</sup> in which R<sup>3</sup> is C<sub>1</sub>-C<sub>4</sub>-alkyl and R<sup>4</sup> is hydrogen or  $C_1$ - $C_4$ -alkoxy( $C_1$ - $C_4$ )alkyl, and

pyridyl is optionally substituted by  $C_1$ - $C_4$ -alkoxy,

 $R^1$ is C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy(C<sub>1</sub>-C<sub>4</sub>)alkyl, benzyl or a group

of the formula 
$$H_3C$$
  $CH_3$ 

where C<sub>3</sub>-C<sub>6</sub>-cycloalkyl is optionally substituted by hydroxy, C<sub>1</sub>-C<sub>4</sub>alkyl or trifluoromethyl,

C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by pyridyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl or hydroxy,

and benzyl is optionally substituted by  $C_1$ - $C_4$ -alkoxy, fluorine, chlorine or bromine,

R<sup>2</sup> is hydrogen,

or

 $R^1$  and  $R^2$  together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl selected from the group of pyrrolidinyl, piperidinyl, piperazinyl and morpholinyl, which is optionally substituted by up to 2 substituents independently of one another selected from the group of  $C_1$ - $C_4$ -alkyl, hydroxy, cyano, oxo, heteroaryl which is an aromatic, monocyclic radical having 5 to 6 ring atoms and 1 to 3 heteroatoms selected from S, O and N; benzyl; formyl;  $C_1$ - $C_4$ -alkylcarbonyl; and the following groups

\langle -0 \langle -0 \rangle, which are linked via the two oxygen atoms to one of the carbon atoms in the heterocycle,

where C<sub>1</sub>-C<sub>4</sub>-alkyl is optionally substituted by hydroxy or pyridyl,

or a salt thereof.

**25.** (New) A method according to claim 22, where in the compound of formula (I):



A is phenyl, thienyl or a group of the formula

where phenyl is optionally substituted by up to 2 radicals independently of one another selected from the group of pyridyl,

fluorine, chlorine, methyl, methoxy, ethoxy, trifluoromethyl, trifluoromethoxy, benzyloxy and benzyl,

where methyl is optionally substituted by a group of the formula  $-NR^3R^4$  in which  $R^3$  is methyl and  $R^4$  is hydrogen or 2-methoxyethyl, and

pyridyl is optionally substituted by methoxy,

R<sup>1</sup> is C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, methyl, ethyl, propyl, 2-methoxyethyl, benzyl or a group

of the formula

where  $C_3$ - $C_6$ -cycloalkyl is optionally substituted by hydroxy, methyl or trifluoromethyl,

methyl, ethyl, propyl is optionally substituted by pyridyl, cyclopropyl or hydroxy,

and benzyl is optionally substituted by methoxy, ethoxy, fluorine or chlorine,

R<sup>2</sup> is hydrogen,

or

R<sup>1</sup> and R<sup>2</sup> together with the nitrogen atom to which they are bonded form a 5- to 6-membered heterocyclyl selected from the group of pyrrolidinyl, piperidinyl, piperazinyl and morpholinyl, which is optionally substituted by up to 2 substituents independently of one another selected from the group of methyl, ethyl, propyl, tert-butyl, hydroxy, cyano, oxo, pyridyl, benzyl, formyl, methylcarbonyl, ethylcarbonyl, propylcarbonyl and one of the following groups

where methyl, ethyl and propyl are optionally substituted by hydroxy or pyridyl,

or a salt thereof.

- 26. (New) A method according to claims 22, where the impairment is a consequence of a condition selected from: mild cognitive impairment, age-associated learning and memory impairments, age-associated memory losses, vascular dementia, craniocerebral trauma, stroke, dementia occurring after strokes (post-stroke dementia), post-traumatic dementia, general concentration impairments, concentration impairments in children with learning and memory problems, Alzheimer's disease, Lewy body dementia, dementia with degeneration of the frontal lobes, including Pick's syndrome, Parkinson's disease, progressive nuclear palsy, dementia with corticobasal degeneration, amyotropic lateral sclerosis (ALS), Huntington's disease, multiple sclerosis, thalamic degeneration, Creutzfeld-Jacob dementia, HIV dementia, schizophrenia with dementia or Korsakoff's psychosis.
- **27.** (New) A method according to claim 22, wherein the impairment is a consequence of Alzheimer's disease.